AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method comprising:

introducing a barrier material in an opening through a dielectric over a contact point;

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introducing a conductive shunt material on the barrier material through a chemically-induced oxidation-reduction reaction;

forming [a portion of]an interconnect structure in [an]the opening [through a dielectric]over [a contact point]the conductive shunt material; and

forming a conductive shunt structure [adjacent the]over an exposed portion of the interconnect structure through a chemically-induced oxidation-reduction reaction [comprising introducing a shunt material precursor in the presence of an alkaline metal-free reducing agent].

2. Canceled.

3. Canceled.

2 4. (Currently Amended) The method of claim 1, wherein forming the shunt structure comprises introducing [the shunt material precursor]a shunt material precursor in the presence of an alkaline metal-free reducing agent in the presence of a non-metallic chelating agent.

3 5. (Previously Amended) The method of claim 1, further comprising:

forming the shunt structure in an alkaline environment with a pH adjusted by an alkaline metal-free pH adjuster.

4 6. (Previously Amended) The method of claim 1, further comprising:

prior to forming the shunt structure, modifying the exposed surface of the interconnect structure.

5 7. (Original) The method of claim 4 6, wherein modifying the surface of the interconnect structure comprises one of stripping with a stripping agent and doping with a dopant.

6. 8. (Currently Amended) The method of claim 1, wherein forming the interconnect structure comprises:

introducing a [barrier]seed material on the conductive shunt material; and

[an interconnect material, and the introduction and reduction of the shunt material precursor precedes the forming of the]introducing interconnect material on the seed material.

7. 9. (Previously Amended) The method of claim 6 8, wherein forming the interconnect structure further includes introducing a seed material following the introduction of the barrier material.

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8. 10. (Previously Amended) The method of claim 6 8, wherein the opening through the dielectric material comprises a via having a cross-sectional area and a volume, and a trench to the via having a cross-sectional area greater than the cross-sectional area of the via, and introducing the shunt material precursor comprises introducing the shunt material precursor in an amount such that the shunt structure thus formed substantially fills the volume of the via.

9. 11. (Previously Amended) The method of claim 1, wherein forming the shunt structure comprises:

placing a substrate comprising the interconnect structure in a bath comprising the shunt material precursor.

10. 12. (Original) The method of claim 9 11, further comprising, prior to placing the substrate in the bath, protecting a portion of the substrate to exposure to the components of the bath.

11. 13. (Previously Amended) The method of claim 1, wherein forming the shunt structure comprises:

dispensing the shunt material precursor onto the interconnect structure.

12. 14. (Previously Amended) The method of claim 1, wherein forming the shunt structure comprises:

placing a substrate comprising the interconnect structure in a wafer scrubber; and

while in the wafer scrubber exposing the interconnect structure to the shunt material precursor.

13. 15. (Previously Amended) A method comprising:

introducing a conductive shunt material in an opening through a dielectric to a contact point, wherein the opening defines a via having a cross-sectional area and a volume, and a trench to the via having a cross-sectional area greater than the cross-sectional area of the via;

introducing an interconnect structure material on the conductive shunt material;

D1 Cont. introducing a conductive shunt material precursor having an oxidation number on an exposed surface of the interconnect structure; and

reducing the oxidation number of the shunt material precursor.

14. 16. (Previously Amended) The method of claim 13 15, further comprising prior to reducing the oxidation number of the shunt material precursor, introducing a reducing agent.

15. 17. (Original) The method of claim 14 16, wherein the reducing agent comprises an alkaline metal-free material.

16. 18. (Previously Amended) The method of claim 13 15, further comprising:

reducing the oxidation number of the shunt material precursor in the presence of a non-metallic chelating agent.

17. 19. (Previously Amended) The method of claim 13 15, further comprising:

reducing the oxidation number of the shunt material precursor in an alkaline environment.

18. 20. (Previously Amended) The method of claim 13 15, further comprising:

prior to introducing the shunt material precursor, modifying the exposed surface of the interconnect structure.

19. 21. (Original) The method of claim 18 20, wherein modifying the surface of the interconnect comprises one of stripping with a stripping agent and doping with a dopant.

20. 13
22. (Previously Amended) The method of claim 15, wherein introducing the interconnect structure comprises introducing a barrier material and an interconnect material.

21. 20
23. (Previously Amended) The method of claim 22, wherein introducing the interconnect structure material further includes introducing a seed material following the introduction of the barrier material.

22. 20
24. (Previously Amended) The method of claim 22, wherein introducing the shunt material comprises introducing the shunt material to substantially fill the volume of the via.

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Claims 25 - 32 (withdrawn). 1C

23.
33. (New) A method, comprising:

forming a via in a dielectric material to expose a contact point;

forming a trench in a portion of the dielectric material over the via;

introducing a conductive shunt material precursor in the via in an amount to substantially fill a volume of the via through a chemically induced oxidation-reduction reaction; and

forming an interconnect structure in the trench and on the conductive material over the via.

24. 23
34. (New) The method of claim 33, further comprising:

forming a conductive shunt structure on an exposed portion of the interconnect structure through a chemically-induced oxidation-reduction reaction.

25. 23
35. (New) The method of claim 33, wherein forming the interconnect structure comprises:

introducing a barrier material along sidewalls and a base of the trench overlying the via; and

introducing an interconnect material on the barrier material to substantially fill a volume of the trench.

36. (New) The method of claim 23, wherein forming the interconnect structure comprises:

introducing a barrier material along sidewalls and a base of the trench overlying the via;

introducing a conductive shunt material on the barrier material through a chemically induced oxidation-reduction reaction;

introducing a seed material on the conductive shunt material; and

introducing an interconnect material over the seed material to substantially fill a volume of the trench.